BE ISSUED
OF THE LIBRARY.

597.954
Syk/Fis
34322

00034322

Digitized with financial assistance from the
Government of Maharashtra
on 26 June, 2018

34322

THE FISHES OF THE DUKHUN.

BY

LIEUT.-COL. W. H. SYKES, F.R.S.,

ETC., ETC.

1838

00034322

XXV. *On the* Fishes *of the* Dukhun. *By Lieut.-Col.* W. H. Sykes, *F.R.S., &c.*

Communicated November 27, 1838.

In submitting to the Society an account of the fishes of Dukhun, it will scarcely excite surprise, that out of 46 species described, no less than 42 are new to science, since they are from a hitherto untrodden field, and from peculiar localities, on the great plateau of the Dukhun (Deccan), none of them coming from a less elevation than 1500 feet above the sea; many from near 2000 feet, and others from yet higher situations. The chief features in the collection are the paucity of orders to which the collection belongs, and the remarkable prevalence of the members of the families of *Siluridæ* and *Cyprinidæ*. There is but one apodal *Malacopterygian*, but four *Acanthopterygii*, and the whole of the rest of the fishes belong to the order Abdominal Malacopterygians. Of the families there are only eight: *Percidæ*, *Scombridæ*, '*Pharyngiens Labyrinthiformes*,' *Gobiadæ*, *Siluridæ*, *Cyprinidæ*, *Esocidæ*, and *Murænidæ*, comprising fifteen genera and nine subgenera, including one subgenus, which I have been compelled to add to the *Cyprinidæ*. An attempt has been made to methodize and distinguish the multitudinous members of the families of *Siluridæ* and *Cyprinidæ*. The fact is, the continued inosculation in the character of the teeth, of the *cirri*, of the spines (serrated or not), of the fins, of the armature of the head, and of the position of the fins, in the *Siluridæ*; and of the number of *cirri*, and form and position of the fins in the *Cyprinidæ*; together with the character of the mouth, produce such approximations in species to each other, and in individuals of one genus to another, that not only is there infinite difficulty in determining the genera of the fishes of these families, but their identity as species is occasionally not less difficult. Some of my *Siluridæ* do not exactly correspond with the generic characters of the genera of this family as now constituted, and I might have added to the number of genera; but to this I have an objection, unless as an evidently necessary measure. In the *Cyprinidæ*, however, I was obliged to set aside my repugnance, for three species were not referrible to any one even of the numerous subgenera which Buchanan Hamilton wished to establish. It only remains to state, that the whole of my fishes were drawn from absolute measurement, and have a scale of size attached to each figure: they were caught in the various rivers on whose banks I encamped, as individuals were required; so that my draftsman, who worked constantly under my own eye, never had to finish his drawings from shriveled and discoloured

Note.—In spelling native names the "u" has the sound of the "u" in the English word "hut," and the other letters have their usual English sounds.

specimens. I have to a great extent adopted the names by which the fishes are called by the Mahrattas, as specific names, so that naturalists who travel the country can always obtain them.

Ord. ACANTHOPTERYGII.

Fam. PERCIDÆ.

Genus AMBASSIS, Agass.

This genus belongs to Cuvier's second subdivision of the family *Percidæ*. Buchanan Hamilton proposed the name *Chanda* for the same genus, but this name has not been adopted.

AMBASSIS BARLOVI.

Tab. LX. Fig. 1.

An *Ambassis*, with the two back fins united; with the first ray indented on the edge, and containing 7 spines, and the second 14 spines; all the spines longer than the membrane; with 18 rays, longer than the membrane, in the anal fin; and with a short, vertically compressed, diaphanous body.

Form short, very compressed, and high: of a yellowish silvery colour, and diaphanous: dorsal fin of 22 unequal bony rays; anal fin of 18 rays; pectoral fin of 10 rays; ventral with 6 rays, of which the first is bony: tail forked, and having 27 rays, including 5 minute rays on the outer side of each of the longest rays. Greatest size of the fish 3 inches. Under jaw projecting beyond the upper: shortest dorsal rays in the centre of the fin: rays generally bony or spiny: scales remarkably thin, and with difficulty discoverable.

The natives say it is an ocean fish: the name given to it by them is revolting, and it is considered unwholesome.

This species closely corresponds in its form to the *Chanda Ranga* of Dr. Hamilton's drawing, but it has two rays more in the dorsal fin and three in the anal, and moreover, has its rays mostly prickles, the membranes shorter than the prickles, and the fins not arched: it has not the gill cover-plates at all indented, and is not greenish in colour: it must therefore be considered a distinct species, and the difference of location justifies the inference. Found in the Beema river, at Pairgaon. Native name, '*Gandreechree*.'

I at one time thought the present species was the *Ambassis Commersonii* of Cuvier and Val., but the formula of the fin-rays in that species differs, being — D. 7 — 1 | 9; A. 3 | 9; C. 17; P. 12; V. 1 | 5. I have named this fish after my friend the Secretary of the Zoological Society.

Fam. SCOMBRIDÆ.

Genus MASTACEMBELUS, Gron.

MASTACEMBELUS ARMATUS.

Tab. LX. Fig. 2.

Mastacembelus, with the fins of the tail, back, and vent, united; with thirty-nine to forty short, sharp, bony spines along the back, and two behind the vent.

This fish is nearly cylindrical, but towards and at the tail, the body is compressed. Head rather depressed, and acuminate from the eyes to the upper lip (which terminates in a mucronate point): upper jaw ridged, like the roof of a house. General colour dark olive, adorned with black blotches. The skin has a beautiful appearance, like that of plaited work; the gills are placed almost longitudinally, and the opening is one inch and a quarter long; the pectoral fins are nearly circular, and contain more than 25 rays, it being difficult to count the very minute rays. The dorsal fin commences one inch behind a perpendicular raised from the vent, and is lost in the tail, which is rounded. From the shoulder to the commencement of the dorsal fin, the back has a line of 39 or 40 sharp, white, bony spines, without membrane between them, those on the shoulders being very short, and gradually lengthening to the last spine, which is $\frac{4}{10}$ths of an inch long. The vent is a little behind the middle of the fish, and close behind it are two white bony spines, of unequal length, the longest of which is half an inch. The anal fin commences at the same distance from the tail as the dorsal fin, and corresponds with it, excepting in not being quite so deep. The dorsal and abdominal spines are usually lying along the back, but the fish has the power of erecting them; and the severe wounds they are capable of inflicting render it dangerous to handle the fish when alive.

The length of the specimen described is 21 inches; diameter at the cylindrical part of the body one inch and $\frac{6}{10}$ths. The mouth and palate are furnished with dental processes, more nearly resembling the roughness of a file than teeth; the mouth is small.

This is the fish so commonly known to Europeans as the *Eel*; it is highly palatable, and in much esteem fried for breakfast. It is rather abundant in all rivers in Dukhun, particularly in rocky pools in the beds of rivers. The usual price is four seers per rupee,—7 lbs. 14 oz. 2 dr. avoirdupois for 2 shillings.

The fish above described differs from *Macrognathus armatus* of Dr. Hamilton's 'Fishes of the Ganges' in the palate being beset with dental processes, in the dorsal spines consisting of 40 instead of 37, and in the rays of the pectoral fins exceeding 25. This fish moreover differs from the generic characters of *Macrognathus* of Lacepède, in the dorsal, anal and ventral fins being united, and in other matters; the fish, in fact, rather belonging to the genus *Mastacembelus* of Gronovius, figured in the 'Règne Animal' (p. 205, fig. 2, pl. 30 of Guérin's 'Iconographie du Règne Animal'), but has the characteristic of *Notacanthus* of Bloch in the union of the dorsal, anal and caudal fins; and it is a question whether it may not constitute a genus intermediate between *Mastacembelus* and *Notacanthus*, not having the exact characters of either of these two genera, nor yet those of *Macrognathus*.

Native name, '*Waam.*'

34322

Fam. 'PHARYNGIENS LABYRINTHIFORMES,' Cuv.

Genus OPHICEPHALUS, Bloch.

OPHICEPHALUS LEUCOPUNCTATUS.

Tab. LX. Fig. 3.

An *Ophicephalus*, with from 51 to 53 rays in the dorsal, and 6 in each ventral fin, and with the rays of the dorsal and anal fins undivided; the pectoral fins ending in a central point; and the fish covered with white dots.

This fish is of a long and roundish form, and of a reddish or brown-black colour: the head is very flat; the eyes close to the snout, circular, and having yellow *irides*. The dorsal fin has from 51 to 53 rays, and extends from near the shoulders almost to the tail; the anal fin has from 33 to 35 rays, and, commencing at the middle of the fish, terminates near the tail; the pectoral fins have each from 15 to 17 rays; the ventral fins are situated beneath the pectoral, and near to each other, and have each six rays; the rays are divided; the caudal fin has 13 rays, exclusive of two or three minute outer rays: the tail is compressed, not forked, but oval-acuminate at the end. The scales are numerous; the mouth wide, and furnished with very small teeth in double rows. The tail is speckled with white spots, and so are the dorsal and anal fins, and the body is partially speckled with white. A faint longitudinal line is observable on each side of the body, extending from the upper insertion of the pectoral fins to the tail. The length of a specimen brought me at Munchar from the Goreh river was 36 inches, and its weight was $3\frac{1}{4}$ seers (6 lbs. 6 oz. 8 drs. 7 grs., avoirdupois). The fish sometimes weighs 6 seers (11 lbs. 13 oz. 4 drs. 8 grs.). The flesh is remarkably firm and sweet, and the bones are small and not numerous: it is much esteemed by the natives, and sells at 4 seers (7 lbs. 14 oz. 2 drs. 18 grs.) per rupee. Found in all the rivers of the Dukhun.

This species differs from the *O. Maulius* of Dr. Hamilton, in having two rays less in the pectoral fins, in the absence of the ocellated spots on the tail-fin, in the dorsal, anal, and tail fins not being rounded behind, and in having numerous white spots; neither is it identical with any one of the species of *Ophicephalus* figured in Russell's 'Coromandel Fishes.'

I never knew this fish to crawl on shore, or in the grass, as some species of the genus are said to do.

Native name, '*Murrul.*'

Fam. GOBIADÆ.

Genus GOBIUS, Linn.

GOBIUS KURPAH.

Tab. LXI. Fig. 1.

A *Gobius*, with 7 rays in the first dorsal fin, 11 in the second, which is of similar size with the anal fin; 19 in the pectoral, and 10 in the anal fin.

Subcylindrical, long, straight, greenish-white, checquered brown, semi-diaphanous. Greatest length 7½ inches. Very delicate: eyes large, prominent, on the top of the head, and approximating; under jaw longer than upper; head flattish, wider than any part of the body: pectoral fins round, of 19 rays; ventral fins of 6 rays, insertions of both adjoining forming a kind of hood; first dorsal fin of 6 strong rays, rapidly sloping from the first; second dorsal fin with 10 strong rays, nearly equal in length, excepting the first ray, which is only half the length of the others; anal fin in size, situation, and number of rays, corresponding to the second dorsal fin, situated far from the tail-fin: tail oval, acuminate at the end, of 14 rays, independently of 5 conglomerate rays on each external edge. The whole of the rays of the fins, with the exception of those of the ventral, are barred with transverse red-brown bars, which in the tail-fin are confined to the membrane between the rays. Lateral line not discoverable: scales imbricate. Fish not bony, and excellent eating. In an examination of a *Kurpah* 7½ inches long (its largest size) I found the ventral fins united at both extremities, and arranged in a circle on the *thorax*. The dorsal fins were distinct, but instead of the first fin consisting of 6 rays, it had only 5, and the second dorsal fin had 11 instead of 10 rays. A third specimen examined had 7 rays in the first dorsal fin, and 11 in the second. A fourth specimen was found exactly the same. I have experienced in other genera of fishes that the rays are not rigidly definite in number in different individuals of the same species. Found in the Beema river, at Pairgaon. The Mahratta name is '*Kurpah*.'

This fish corresponds very closely in its outline to Dr. Hamilton's drawing of the *Gobius giurus*, and in its general description; but, independently of discrepancies in the number of the rays of the fins, all the rays of the second dorsal and anal fins of Dr. Hamilton's fish are divided, whereas in the *Kurpah* they are strong undivided prickles. The first dorsal fin also differs in form. The red-brown bars are also wanting in the *Gobius giurus*, and it has a marked lateral line. This *Gobius* has also a general resemblance to Nos. 51 and 53 of 'Russell's Fishes' *Koku* and *Bullee Kokah*, but the number of rays and the markings are not the same.

Ord. MALACOPTERYGII ABDOMINALES.

Fam. CYPRINIDÆ.

Genus CYPRINUS, Linn.

CYPRINUS ABRAMIOIDES.

Tab. LXI. Fig. 2.

A *Cyprinus*, with 20 rays in the dorsal, 8 in the anal, and 18 in the pectoral fins; without tendrils; with tuberculated nose; red-edged fins; and with a red lunule on each scale.

This is a very large, fleshy, deep fish, somewhat compressed on the sides: the back is ridged, and the belly rounded. Scales large, of a silvery flesh-colour, and each marked with a red lunule, the edges of all the fins being tinged with bright copper-colour: back

much arched: belly nearly as much so: head obtuse-conic. Lateral line in the centre of the body, running straight from the eye to the fork of the tail. Dorsal fin of 20 strong rays, the first two undivided, sloping rapidly; pectoral fins of 18 rays, sharp; ventral fins nearly triangular, of 9 rays, situated a little behind a perpendicular from the first dorsal ray; anal fin of 8 rays, including an anterior double ray, sloping rapidly behind: tail deeply forked, of 19 rays, besides three minute rays outside each longest ray; lobes very sharp, but the line between them sublunulate. Fish described, 21 inches long by 7 inches high; width $2\frac{3}{4}$ inches. Nose or upper lip with minute tubercles: flesh firm, sweet, and agreeable: bones numerous, but sufficiently large not to be troublesome. The fish is highly esteemed, and to me appears the most valuable of the *Carps* in India.

The outline of the body of this fine fish, which is called '*Tambra*' from the general prevalence of a copper colour in it, is exactly that of the European *Bream* (*Cyprinus Brama*), supposing the anal and the dorsal fins changing places.

In 86 species of *Cyprinus* described by Dr. Hamilton, there are only two which, from the composition of their fins, will admit of the *Tambra* being compared with them—*the Cyprinus Nandina* and the *Cyprinus Nancar*; but the former has 26 rays in the dorsal fin, fringed lips, 4 tendrils, and a smooth nose, and must therefore be set aside. The latter has in every fin precisely the same number of rays as in the *Tambra*, and corresponds in form, but it has 4 tendrils, no tubercles, and its lateral line and colour are quite different. The *Tambra* has certainly a close affinity to the *Cyprinus Gibellio* of Bloch, and, like it, wants the tendrils; but its tuberculated nose, greater size, and remarkable colour, sufficiently distinguish it.

Cyprinus Potail.

A *Cyprinus* proper, deep and fleshy; slightly compressed; without tendrils; with the dorsal fin of 13 rays, pectoral of 14, and anal of 9.

A very deep, high-backed, fleshy fish, compressed but slightly. Scales large and silvery: dorsal fin on the highest part of the back, and having 13 rays, including the first treble ray; pectoral fins of 14 rays; ventral fins of 10 rays, including a very minute bony ray in front of the longest ray: vent far back: anal fin of 9 rays, including the first treble ray: tail forked, of 19 rays, besides 4 or 5 rays outside each longest ray. Length of the fish described, 10 inches; height, $3\frac{1}{4}$ inches; width, $1\frac{1}{2}$ inch. Brought from Nursewpoor, on the Beema river.

This is a true *Cyprinus* agreeably to Dr. Hamilton's subgeneric distinctions, but the number and arrangement of the rays in its different fins will not admit of its being identified with any of the species described by him.

Found in the Beema river, near Taimboornee.

Cyprinus Nukta.

A *Cyprinus*, with two tendrils on the under jaw, and with two short horns or bosses on the space between the eyes, which, together with the reflected upper lip, are tuberculated; large scales.

I have mislaid my notes of the number of rays in the fins of this fish, but it is too remarkable, from the character of its head, to be mistaken for any other species of *Cyprinus*; and as I have drawings of two individuals of the same species, I am enabled to give a sufficient description of it. The natives call it '*Nukta*,' from the two knobs or short horns on the nose, between the eyes. I have met with it but at Mahloongeh, 18 miles north of Poona: brought from the Inderanee river. Body subcylindrical and elongated, but higher at the shoulders than in any other part. Of a rich brown colour, softening towards the belly, with a golden reflection, and each scale furnished with a carmine lunule. It does not exceed the length of 5 or 6 inches. Head abrupt; upper lip reflected; chin supplied with two short fleshy feelers; gill-covers rounded; the space between the eyes furnished with two short horns or bosses, which, together with the upper lip, are tuberculated; eyes circular, high up; *irides* reddish. Dorsal fin before the centre; ventral a little behind a perpendicular from the last dorsal ray; pectoral fins very low down: tail two-lobed; lobes sharpish. Both Mr. Rüppell and Mr. Yarrell, who have done me the favour to look over my fishes, express their belief that the present fish is only a monstrosity of *C. auratus*, but it is worthy of notice, from its peculiarities. In the domesticated state we meet with these deviations from nature, but where man does not interfere I had thought them rare, and yet in the Dukhun I found them so common as to have a specific native name.

Genus Varicorhinus, Rüppell.

Varicorhinus Bobree.

Tab. LXI. Fig. 3.

A *Varicorhinus*, with tuberculated nose; without tendrils; with 17 rays in the dorsal, and 8 in the anal fin; with the form of a tench.

An erect tench-like fish, attaining a foot in length. Pectoral fins of 16 rays; dorsal fin of 17 rays, including the first double dorsal ray; ventral fins of 9 rays; anal fin of 8 rays, including minute rays before the longest ray: tail forked, of 19 rays, exclusive of 6 outer minute rays: scales rounded, darkish on the back, softening to silvery towards the belly, with a gloss of greenish-gold; and some of the scales on the centre of the body have a carmine spot. Length of the fish described, 6 inches; height before the dorsal fin, $1\frac{6}{10}$ths. Head conic; nose tuberculated; head and gill-covers of a brown chestnut colour; gill-plates rounded; eyes far back, circular; pupils surrounded by a yellow and carmine ring; nostrils near the lips: ventral fins situated a little behind a perpendicular from the first dorsal ray. The lateral line is a little below the centre, bent slightly, with the concave side uppermost. Fish full of minute bones, but very

sweet. This species has quite the outline of the *Tench*, the arch of the back being greater than that of the belly. The *Bobree* also has the outline, including the fins, of the *C. Catla* figured by Dr. Hamilton. The discrepancies are in the *Catla* having one ray more in the dorsal fin, in its nose not being tuberculated, in a larger head, in the scales being marked with vertical lines of dots, and being large, and in its greater size; but all these differences may be dependent on age or locality.

In Rüppell's 'Fishes of the Nile' there is a figure of a species of his genus *Varicorhinus* (Tab. III. fig. 2.). Cuvier classes the *Cyprinus Catla* of Buchanan Hamilton, to which the *Bobree* is so nearly allied, with the division of the gold and silver *Carps*; but it is a question whether it is not a real *Labeo* of Cuvier, with long dorsal, no spines or *cirri*, and thick fleshy lips, frequently crenated.

Genus Barbus, Cuv.

Barbus Mussullah.

Tab. LXI. Fig. 4.

A *Barbus*, with 12 rays in the dorsal, 8 in the anal, and 16 in the pectoral fins; with the mouth furnished with 4 very short *cirri*; and tuberculated nose: sometimes 3 feet and more long, and a foot high, and weighing 42 pounds.

Pectoral fins of 16 rays; ventral of 9 rays; dorsal fin of 12 rays, including the first double ray; anal fin of 8 rays, including the first double ray: tail forked, of 24 rays, including the short rays at each exterior side of the insertion of the tail: a remarkable projecting prominence between the upper lip and nostrils, giving to the fish the appearance of being Roman-nosed: the eyes are situated far back, and between the eyes and the corners of the mouth there are a number of circular, rough, prominent *papillæ*, but these are not constant: corners of the mouth furnished with a short feeler, and the base of the nasal prominence, near the tip, also furnished with one on each side: dorsal fin in the centre of the back, on a prominence which slopes suddenly behind; ventral fins on the centre of the belly, on a perpendicular from the first dorsal ray: tail suddenly narrows below, after the anal fin; anal fin with the posterior angle bluntly rounded off. The lateral line is slightly arched at the shoulder, then falls, and runs straight to the anal fin; over this it rises a little, and then runs straight to the centre of the fork of the tail. The whole of the upper parts of the fish are covered with large, coarse, silvery scales, having blue and red reflections, and on the under parts a yellow tinge prevails; it is very bony, and its length, to the end of the fork of the tail, is 12 inches, and height, 3 inches; but its greatest growth is 5 feet. When small this species resembles the *Kolus*, but in the latter, the colour is more reddish-silvery: the fins are reddish, and the *Mussullah* is a much coarser, and infinitely larger fish A male brought to me at Seroor, from the Goreh river, measured in length 3 feet 4 inches, and in height 1 foot, and weighed nearly 42 lbs. avoirdupois. The flesh

wanted flavour. The *Mussullah* differs from the *Mosal* of Dr. Hamilton, in having 1 ray less in the dorsal and pectoral fins, and in the first rays of these fins being double instead of quadruple; in the latter respect, and indeed in many others, resembling the *C. Putitora*: it also differs in having the nose and upper lip tuberculated, and in colour. The prominence on the nose is also marked. Russell describes three *Barbels*, calling them *Cyprini*, but none of them are identical with the present fish.

Barbus Khudree.

A *Barbus*, with 4 *cirri*; blood-stained fins; large hexagonal scales; elongated body; and with 14 rays in the dorsal, 14 in the pectoral, and 7 in the anal fins.

Dorsal fin of from 10 to 12 rays; first long ray a thick strong bone, with 3 very short bones before it; the whole four compact: pectoral fins of 12 perfect rays, and 2 incomplete rays; ventral fins of 9 rays; anal fin of 7 rays: tail forked, of 18 rays, besides 4 short rays outside the longest rays: scales large, hexagonal, and of a silvery bluish-green colour: mouth furnished with 4 short feelers: anal, ventral and pectoral fins tipped with blood-colour. Lateral line concave, below the centre, and corresponding to the arch of the belly: the scales along the lateral line emarginate. Length, 10 inches; height, 2$\frac{3}{4}$ inches; greatest length, a foot and a half; weight, from half to three-quarters of a seer. This fish has a considerable resemblance in form, size, and habits, to the *Cyprinus Mrigala* of Dr. Hamilton; but its blood-stained fins, 4 feelers, and the discrepancies in the number of its fin-rays, sufficiently distinguish it. It is sweet and agreeable food. The same fish, under varied circumstances of age, has the fins tipped with bluish instead of red.

Found in the Mota Mola river, 8 miles east of Poona.

Barbus Kolus.

Tab. LXII. Fig. 1.

A *Barbus*, with 13 rays in the dorsal fin, 8 in the anal, and 10 in the ventral; with moderate-sized scales; with callous tubercles on the head, and a short *cirrus* at each corner of the mouth.

Dorsal fin of 13 rays, including the first treble ray; pectoral fins of 14 perfect and 2 imperfect rays; ventral fins of 10 rays; anal fin of 8 rays, including the first double ray: tail forked, of 19 rays, besides four external minute rays beyond each of the longest rays: scales small, silver-grey: snout with minute white tubercles. Length, 11 inches; height 3$\frac{3}{4}$; grows to the length of 18 inches, and weight of 1$\frac{1}{4}$ seer. Ventrals barely behind a perpendicular from the first dorsal ray. Fish subcylindrical, slightly compressed, fleshy: arch of the back and belly similar: posterior angle of anal fin rounded off. Lateral line sinks a little from the middle of the gills to the end of the ventral fins; thence it rises a little, and afterwards continues straight to the tail. A scaly appendage above the base of each ventral fin: back reddish silver-grey: corners of the mouth furnished with a short feeler. This fish resembles the *Mussullah* much in form, but the

latter is a larger and coarser fish, and bluer in colour. Very bony, but sweet. Differs slightly from the *Cyprinus Curmuca* of Hamilton, in having 2 rays in the dorsal and 1 in the ventral more, and in the scaly appendage to the ventral fins.

Found in the Mota Mola river, 8 miles east of Poona.

We have in this fish another proof of the extreme difficulty of making generic characters rigidly embrace all the species of a genus. The *Barbels* have four *cirri*; it ought not, therefore, to be a *Barbel*. But the species of the next genus, *Gobio*, are without *cirri* and without spines, whilst the present species has two *cirri* and a spine in the dorsal; it cannot, therefore, be a *Gobio*; and as its chief characteristics are rather those of *Barbus* than *Gobio*, I have classed it accordingly. However, Cuvier, in the 'Règne Animal,' considers the *Cyprinus Curmuca* of Buchanan Hamilton as a *Gobio* or *Gugeon*.

Genus Chondrostoma, Agassiz.

The first division of the genus *Leuciscus* of Klein. Dorsal fin in the centre of the back.

Chondrostoma Kawrus.

Tab. LXII. Fig. 2.

A *Chondrostoma*, without lateral line, tubercles, or *cirri*: with 12 rays in the dorsal, 8 in the anal, and 16 in the pectoral fins.

A subcylindrical fish, with a narrow profile and lance-shaped head: back of a reddish-green grey, silvery below. Fins with the extremity of the rays tinted reddish; dorsal fin of 12 rays, situated in the centre of the back, but two rays undivided; pectoral fins of 16 rays; ventral fins of 9 rays, situated on a perpendicular let fall from the centre of the dorsal fin; anal fin of 8 rays, including one short ray before the longest ray. Tail forked, of 19 rays, exclusive of 4 rays on each side of the longest ray; lobes of the tail sharp and equal; lateral line very rare, and when occurring obscure. Length 6 inches (grows to a foot); height 1$\frac{4}{10}$ths. This fish has precisely the same number of rays in all its fins as the *Cyprinus Angra* of Dr. Hamilton, but it is abundantly distinct not only in its colour and in the absence of a dotted stripe, but more particularly in the want of a lateral line, which is of more importance than the difference of a ray or two in the fins. The *Kawrus* belongs to Dr. Hamilton's "*Morulius*" division of the *Cyprinus* family, and it has a close affinity to his *Cyprinus Musiha*, but it is not identical with it. It has much the figure of the European *Barbel*, or rather of the *Salmo fasciatus*. Found in the Beema river, at Seedataik.

Chondrostoma Fulungee.

A *Chondrostoma*, with dorsal fin of 10 rays, anal 6, and pectoral of 10; of an elongated, and not much compressed shape.

Pectoral fins small, of 10 rays, situated close to the gills; ventral fins small, of 8 rays, situated in the middle of the abdomen; anal fin of 6 rays, an inch from the caudal fin;

caudal fin of 20 rays, in two divisions; dorsal fin on the centre of the back, of 10 strong rays. General form of the fish salmon-like: scales large, silvery: gills without bony rays: length about a foot; height nearly 4 inches. Bones somewhat numerous, of several prongs at each end, easily separating from the flesh: flesh remarkably sweet and firm. The *Fulungee*, which bears the same name as the fish closely allied to the *Cyprinus Bacaila*, would be referred to Dr. Hamilton's third subgenus of *Cyprinus* "*Bangana*," but it is not to be identified with any of the species, although in outline it has a close resemblance to the figure of *Cyprinus Mrigala*, and has other general points of resemblance. In 86 species described by Dr. Hamilton, only one, like the *Fulungee*, has an anal fin with 6 rays (*C. Puntio*), but the resemblance ceases here; nor does the *Fulungee* belong to the sub-genus *Puntio*.

Chondrostoma Boggut.

A *Chondrostoma*, without tendrils or tubercles on the nose; with 12 rays in the dorsal, 15 in the pectoral, and 8 in the anal fin; body of an elongated form.

Pectoral fins small, of 15 rays, sharp, situated low; ventral fins of 9 rays, small, situated on a perpendicular let fall from the centre of the dorsal fin; anal fin of 8 rays, including the first two undivided rays, first ray short; caudal fin of 19 rays, in 2 lobes, lobes sharp; dorsal fin of 11 rays, besides one short ray in front of the longest, two first rays osseous and undivided. Fish elongated; from 7 to 11 inches long; $1\frac{3}{4}$ths to 2 inches high. Scales hexagonal, silvery, reflecting gold and purple, each with a marginal line of very minute dots. Lateral line in the centre, straight: arches of the back and belly very low, that of the back somewhat more convex than that of the belly: eyes large, high up; *irides* broad, silvery: nostrils double, seated near the eyes. Fish very bony: flesh dry, somewhat insipid.

This fish has much the aspect of the *Cyprinus Orfus*; possibly it is a little less deep. The *Boggut* belongs to Dr. Hamilton's third division, or sub-genus '*Bangana*' of the *Carp* family, but differs, in having 2 rays less in the pectoral fins, from the *Cyprinus Cata*, and in the scales having *striæ*. The *Boggut* has much the aspect also of the *Cyprinus boga* of Dr. Hamilton's drawings. In some parts of the country it is called '*Kolees*.'

Chondrostoma Mullya.

Tab. LXII. Fig. 3.

A *Chondrostoma*, with a short obtuse head, without tubercles or tendrils; sub-cylindrical body, with 11 rays in the dorsal, 14 to 16 in the pectoral, and 8 in the anal fins.

Fish sub-cylindrical; head very short, obtuse; upper lip projecting far over the mouth; mouth small; a red process or protuberance on the snout, between the nostrils; a reddish transverse process on the upper lip. Dorsal fin situate a little before the centre of the fish, of 11 rays, including the first double ray, its edge concave; pectoral fins of 16 rays, situated very low, longest rays in the centre; ventral fins of 9 rays,

situated a little behind a perpendicular from the first dorsal ray; anal fin of 8 rays, including first double ray. Tail barely two-lobed, the line between the points being concave, of 19 rays, besides minute rays outside the longest rays; lateral line above the centre, straight. This fish does not exceed the length of 5 or 6 inches, and is $1\frac{1}{2}$ to 2 inches in diameter. There are some few handsome spots of carmine about the head, and the eye has a narrow, bright orange *iris*. The general colour is dark olive, with a play of faint red and copperas-green sometimes on the scales: the fins have a faint orange tint at their extremities: fish firm, sweet, but bony. Found in the Beema river, at Downde.

In 86 species of *Cyprinus* described by Dr. Hamilton there is not one corresponding to the *Mullya*, in the arrangement of the rays of the fins; I am constrained, therefore, to consider it a new species. The *Mullya* approaches a good deal in figure to the *Dace* of Europe.

Chondrostoma Wattanah.

Tab. LXII. Fig. 4.

A *Chondrostoma* of an elongated form, without tubercles or tendrils, with the dorsal fin high, and having 11 rays; 9 or 10 rays in the ventral, and 8 in the anal fin; and of a sub-cylindrical body. Length $4\frac{1}{4}$ inches; height $\frac{3}{4}$ths of an inch.

A long sub-cylindrical fish: reddish-brown on the back, softening to silvery under the belly: head not obtuse; eyes far back, circular; *irides* silvery. Dorsal fin on the centre of the back, of 11 rays, first ray undivided, large and high for the size of the fish; pectoral fins of 14 or 15 rays, sharp; ventral fins of 9 or 10 rays, situated a little behind a perpendicular dropped from the first dorsal ray; anal fin of 8 rays. Tail forked, of 19 or 20 rays, besides 6 short rays outside the longest rays. Lobes sharp, but small, there being some depth of tail-fin previous to the divarication. Lateral line straight, in the centre of the fish. Length of the fish $4\frac{1}{4}$ inches; height $\frac{3}{4}$ths of an inch; does not grow larger. Found in the Beema river, near Pairgaon.

This fish has quite the figure and aspect of the *Dace* of Europe. The *Wattanah* belongs to Dr. Hamilton's ninth, or '*Garra*' division of the genus *Cyprinus*, but there is not any species with which it can be identified.

Genus Chela, Buchanan Hamilton.

A sub-genus of *Leuciscus*, with the dorsal fin very far behind over the anal; straight back, and nose on the level of the line of the back.

Chela Balookee.

A *Chela*, of the size of a *Minnow*: back straight; body elongated; dorsal fin situated far back, and having 8 rays, 14 rays in the anal, and 12 in the pectoral fins.

Size and form of a *Minnow*: general colour silvery: pectoral fins of 12 rays; dorsal fin of 8 rays, situated where a second dorsal fin is usually found; anal fin of 14 rays:

tail forked, of more than 24 rays, including outer rays : ventral fins of 9 rays, situated on the centre of the belly : point of nose forming a continuation of the line of the back : length, 3 inches. Fish very sweet eating, bones and all, and it is usually served at breakfast, fried ; the fishes (ten or a dozen) being arranged laterally, with a silver skewer run through them. Common in all the rivers.

The *Balookee* belongs to Dr. Hamilton's first division of the genus *Cyprinus*, having an affinity to the *Clupanodons*, but it is not to be identified with any of the species described by him.

Chela Oweni.

Tab. LXIII. Fig. 1.

A *Chela*, with straight back, elongated and vertically compressed body; dorsal fin situated far back, with 11 rays, 12 in the pectoral, and 19 in the anal fins; with scales so minute as to be scarcely discoverable. Length 5 inches; greatest size 7 inches.

A straight, elongated, much compressed fish ; the line of the back being straight, and the snout on a continuation of the same line : the belly arched : top of the head flat, the lower part curving upward from below. The back is of a very light olive-grey : the *abdomen* shining silvery : pectoral fins of 12 rays, very sharp ; dorsal fin of 11 rays, situated very far back near the tail, edge rapidly sloping ; ventral fins of 9 rays each, situated a little behind the centre of the fish ; anal fin of 19 rays, including three minute rays before the first longest ray : tail forked, of 19 rays, besides 6 small rays outside the longest rays. One lateral line, and this is quite straight, and situated a little above the centre. Length to the end of the rays of the tail 5 inches ; depth $\frac{3}{4}$ths of an inch : does not grow larger than 7 inches : scales barely discoverable. This fish belongs to Dr. Hamilton's '*Chela*,' or first division of the genus *Cyprinus*, and has quite the outline of the *Cyprinus bacaila* ; but its want of a double lateral line, of scale-like appendages about the ventral and pectoral fins, and its having 2 rays more in the dorsal, and 3 in the anal fins, disable me from considering them identical. Found in most of the rivers in Dukhun.

Russell's figure (199) is a species of this sub-genus, and Russell supposes his fish to be the *Clupea Dorab* of Forskal (No. 108). *Cyprinus Cultratus* of Bloch would appear to be the type of the sub-genus.

I have dedicated this fish to my friend Mr. Owen, the distinguished naturalist.

Chela Jorah.

A *Chela*, with straight back, convex belly, dorsal fin far behind; size of a large *Minnow* ; with 10 rays in the dorsal, 12 in the pectoral, and 8 rays in the anal fin.

A somewhat compressed fish : straightish back, convex belly : size of a large *Minnow* : back dark, with a purplish shade softening into silver down the sides and *abdomen* : dorsal fin of 10 rays, situated far back ; pectoral fins of 12 rays ; ventral fins of

8 rays, situated behind the centre of the fish; anal fin of 11 rays: tail forked, of 18 rays, besides outer short rays: length about 4 inches; height, $\frac{8}{10}$ths of an inch: good eating. This fish belongs to Dr. Hamilton's first sub-genus of *Cyprinus*, '*Chela*,' as far as the situation of the back-fin and elongated compressed form is concerned, but it is not described by him. Found abundantly in the Beema river, near Pairgaon.

Chela Teekanee.

A small *Chela*, with nearly straight back; snout on the continuation of the line of the back; belly arched; with 10 rays in the dorsal, 12 in the pectoral, and 14 in the anal fins.

A compressed fish: back very slightly arched: snout nearly in a continuation of the same line: body deep: belly convex: dorsal fin situated far back, of 10 rays, large for the size of the fish; pectoral fins of 12 rays; ventral fins of 9 rays, situated in front of a perpendicular let fall from the first dorsal ray; anal fin of 14 rays: tail forked, of 18 rays, besides external minute rays. Colour on the back light reddish-brown, softening into silver. Length, $2\frac{1}{2}$ inches; depth, $\frac{3}{4}$ths of an inch. Found in the Beema river, at Pairgaon.

This fish also belongs to Dr. Hamilton's sub-genus '*Chela*,' for the reasons assigned with respect to the *Jorah*; but it is not described by Dr. Hamilton.

Chela Alkootee.

An elongated, silver-white, slightly compressed, minute *Chela*, with the dorsal fin of about 8 rays, very far back; ventral of about 7, and anal of about 10 rays, with burnished silver gill-covers and black orbits.

Although rarely more than an inch long and not much thicker than a good-sized crow-quill, this fish is very beautiful, and is sweet eating. The sides are slightly compressed: the back and belly rounded: back straight: the gill-covers quite smooth, and of a polished silver: pupils black; a black circle surrounds the eyes, and there is a patch of faint yellow on the forehead: all the rest of the fish is of a silver-white colour, and the body is semi-diaphanous. The rays are all so delicate that it is only with a microscope they can be counted, and then not with absolute certainty. Dorsal fin of about 8 rays, situated near to the tail, first ray half as long as the second; ventral fins a little behind the centre of the fish, of about 7 rays; anal fin of about 10 rays, first ray half as short as the second, situated on a perpendicular from the dorsal fin; pectoral fins longer than the head, very sharp, situated low, of about 10 rays. Lobes of the tail sharp, lowest the longest: lateral line quite straight: scales excessively minute.

Genus Leuciscus, Klein.

First division. The dorsal situated a little behind the centre of the back, above the space between the ventral and anal fins.

Leuciscus Morar.

Cyprinus Morar, Buchanan Hamilton.

A *Leuciscus* allied to *Chela*, but with the dorsal fin a little behind the centre of the back, with 8 rays in each ventral fin, 12 in the anal, and 10 in the dorsal, and with the edge of the belly smooth.

Head and back on the same line: thickish, fleshy fish, somewhat compressed, reddish-grey on the back, softening into silvery below: edges of the scales so raised as to give the fish a reticulated appearance: outline of the fish nearly that of a *Smelt*. Dorsal fin situated a little behind the centre of the back, of 10 rays, including the first double ray; pectoral fins of 14 rays; ventral fins of 8 rays, situated a little before a perpendicular from the first dorsal ray; anal fin of 12 rays, including the first double ray: tail forked, of 19 rays, besides 8 minute rays outside the longest rays: length $4\frac{3}{4}$ inches; depth $1\frac{1}{10}$ inch.

With the exception of a single ray less in the pectoral fins, the *Amlee* has precisely the number of rays of the *C. Morar* of Dr. Hamilton; the situation of the fins and the size and form of the fish correspond with sufficient exactness; and although there are some discrepancies with respect to colour, and one or two other matters, I conceive myself justified in considering them identical.

Leuciscus Sandkhol.

A *Leuciscus*, with nearly cylindrical body; dorsal fin of 12 rays, pectoral of 14, and ventral of 10 rays.

Long sub-cylindrical fish: gibbous head: olive on the back; silvery on the belly: dorsal fin of 12 rays, a little before the centre of the fish; pectoral fins of 14 rays; ventral of 10 rays, situated on a perpendicular from third dorsal ray; anal fin of 8 rays, including 1 double ray: tail forked, of 19 rays, besides minute outer rays. 8 to 10 inches long, by $1\frac{1}{2}$ to 2 inches high. Bony: eyes with whitish narrow *irides*.

Found in the Goreh river at Kullumb.

Leuciscus Chitul.

A *Leuciscus*, with 14 rays in the dorsal, 14 in the pectoral, and 8 in the anal fins; of a reddish-grey colour, and rounded head.

Small sub-cylindrical fish: 5 inches long; height $1\frac{1}{2}$ inch; tail deeply forked: dorsal fin of 14 rays; pectoral fins of 14 rays (possibly 15); ventral fins of 9 rays, situated on a perpendicular from the centre of the dorsal fin; anal fin of 8 fleshy rays: tail of 19 rays, besides small rays outside, tinged with reddish. General colour of the fish reddish-grey. Head rounded.

Found in the Inderanee river, near Chakun.

It being found impracticable to arrange, in any of the sub-genera described, the following fishes of the *Carp* family, it is proposed to place them in a new sub-genus, which I will call by the native Mahratta name of '*Rohtee*.'

Rohtee, nov. genus.

Carps, with a lozenge-shaped body, rather long dorsal and anal fins, the former seated on the angle of the back, with the first complete ray serrated posteriorly; scales minute.

Rohtee Ogilbii.

Tab. LXIII. Fig. 2.

A *Rohtee*, with 12 rays in the dorsal, 9 in the ventral, and 17 in the anal fins; the body very compressed, and very high, with the back sloping to each end from the centre.

An erect, compressed, deep fish: lance-headed: reddish-purplish silvery on the back, softening into silvery below: back angular: dorsal fin situated on the angle, of 10 rays, besides 2 rays before the longest ray; first long ray a strong bone, serrated posteriorly; pectoral fins of 15 rays; ventral fins of 9 rays, situated on a perpendicular let fall from the first dorsal ray; anal fin of 15 rays, besides 2 before the longest ray: tail forked; lobes sharp, but not deep, of 19 rays, besides 8 minute rays on the outside of the longest rays. Eyes very large: head short; mouth descending obliquely. Lateral line arched near the shoulders, thence straight to the tail. Scales not large; uniform over the body. Length, $4\frac{1}{2}$ inches; height, $1\frac{1}{2}$ inch. Fish bony. Found abundantly in the Beema river, near Pairgaon.

The *Rohtee* has the appearance of *Clupanodon Chanpole* of Dr. Hamilton; also of *Cyprinus devario* in the outline of the body; and were it proper to consider it a *Cyprinus*, which its armed back-fin renders impossible, it would be placed in Dr. Hamilton's eighth sub-genus '*Cabdio*.' I have named this fish after my friend Mr. Ogilby, whose contributions to natural history are so well known.

Rohtee Vigorsii.

Tab. LXIII. Fig. 3.

A *Rohtee*, with armed dorsal fin of 11 rays, ventral of 10, and anal of 28 rays; compressed body; high in the middle, and sloping to each end.

A compressed, lance-head-form silvery fish, with the snout turned up: upper line of the head straight, lower curved upwards from below: greyish light green on the back, white on the abdomen: dorsal fin of 11 rays, including the first ray, which is bony and double, and the second ray long-toothed posteriorly; pectoral fins, including minute rays, 16; ventral fins of 10 rays, and anal fin of 28 rays, including 2 minute rays before the first long ray: tail deeply forked, of 27 rays, including 4 on the outer side of each longest ray: ventral fins in advance of a perpendicular dropped from the dorsal fin: line of the dorsal and anal fins concave: lobes of the tail long and very sharp: dorsal fin situated on the top of a keeled process from the back. Scales very minute, roundish, quite transparent, and becoming invisible on the abdomen: back angular: eyes very

large, and high up. Length, 6 inches; depth, $1\frac{9}{10}$ths inch: extreme length, 8 inches. Found abundantly in the Beema river, at Pairgaon. The native name is '*Phenk.*'

I have dedicated this fish to my friend Mr. Vigors, the distinguished naturalist.

Rohtee Pangut.

A *Rohtee*, of a compressed and deep form, with an angular back, and having 12 rays in the dorsal, 14 or 15 in the pectoral, and 8 in the anal fins, and with the first 3 or 4 rays of the dorsal fin black at their tips.

An erect and somewhat compressed fish: line of the back somewhat angular: dorsal fin situated at the angle: scales rather large: dorsal fin of 12 rays, including the first double ray; pectoral of 14 rays, possibly 15; ventral of 9 rays, situated a little behind a perpendicular from the first dorsal ray; anal fin of 8 rays, including the first double ray: tail forked, of 19 rays, besides minute rays on the outer side of the longest rays: back and head yellowish-brown; silvery towards the abdomen. Brought from the Beema river, at Nursewpoor. Length 5 inches; height $1\frac{1}{4}$; width $\frac{6}{10}$ths of an inch. First 3 or 4 rays of the dorsal fin black at the tips. I found the same name for the *Pangut* at Chakun, brought from the Baum river. The *Pangut* belongs to Dr. Hamilton's eighth sub-genus ('*Cabdio*') of *Cyprinus*, and has the outline of body of *Cyprinus Cotio*, but the size of the fins render it otherwise quite distinct, and there is not any other fish of this sub-order with which it can be identified.

Rohtee Ticto.

Cyprinus Ticto of Buchanan Hamilton.

A *Rohtee*, $1\frac{1}{2}$ inch long, with 4 to 6 black spots on the body; the second ray of the dorsal toothed behind with sharp incurved teeth; with 10 rays in the dorsal, 8 in the anal, and 8 in the ventral fins.

A very beautiful little fish, with a gloss of golden green along the back, and with a lake-silver gloss along the sides and belly, with from 4 to 6 black spots on the body, made up of minute dots; one small spot above each pectoral fin, one larger one is situated on the tail, above the last anal fin ray, and one minute spot, sometimes wanting, near the base of the first dorsal ray. It has the shape of a *Sprat*, very rarely exceeds $1\frac{1}{2}$ inch in length, and most commonly does not approach an inch. Dorsal fin situated on a ridge on the centre of the back, and consisting of 10 rays; the first and second undivided; the first, half the length of the second, the second a bone sharply but minutely toothed behind; pectoral fins of 10 or more rays, situated low down, and very narrow and sharp, the first ray being the longest; ventral fins, situated on a perpendicular let fall from the first dorsal ray, of 8 rays; anal fin of 8 rays, situated midway between the ventral fins and base of the fork of the tail; first ray half as long as the second: the tail suddenly contracts after the anal fin: tail-fins of 2 equal, sharp lobes, and composed of 18 rays, besides small rays. Lateral line very obscure, above the centre, corresponding to the arch of the back. Scales large for size of fish, marked

with numerous minute dots at their base, visible mostly with the microscope. The native name of the fish is '*Tipree.*'

Although the *Tipree* differs from Dr. Hamilton's *Cyprinus Ticto*, in having one ray less in the ventral and caudal fins, and one more in the anal, and mention is not made of the occasional spot at the base of the first dorsal ray, I am nevertheless satisfied they are the same from the figure of the *Ticto* in Dr. Hamilton's Plates.

Found in the Mota Mola river, at Poona.

Genus Cobitis, Lin.

Cobitis Rupelli.

Tab. LXIV. Fig 1.

A nearly cylindrical scaleless *Cobitis*, not much thicker than a large goose-quill; from 2 to 3 inches long; with 6 *cirri*; colour, including the fins, greenish-yellow, with the exception of the belly, which is white; the lateral line marked with short brown bars, and the rays of the dorsal and anal fins similarly barred; tail-fin cheveroned with brown.

The head acuminated: eyes high up, and prominent; *irides* partly golden: dorsal fin of 13 rays, including a minute ray in front of the longest ray, higher and longer than any but the tail-fin; pectoral fins of 12 rays, the central ray the longest; ventral fins of 8 rays, situated behind a perpendicular from the first dorsal ray; anal fin of 8 rays, including the first double ray; tail-fin large, rather notched than forked, the lobes being small, of 19 rays, besides minute rays on the outer side of the longest rays. The head, although acuminated, has the snout rounded: it is unarmed, and there are small *cirri* at the corners of the mouth, and 4 small ones on the edge of the upper lip, the two intermediate ones being shorter than the exterior. The lateral line runs straight along the side of the fish. The native name is '*Mooreh.*'

The *Mooreh* has a close affinity to the *Cobitis Cilturio* of Dr. Hamilton, but it differs in the number of its rays supporting the fins, and slightly in the arrangement of its colours.

The *Mooreh* is a very beautiful little fish, is in great esteem for food, and is found in the Beema river, near the town of Taimbournee; in the Mota Mola river, near Poona, and probably in most of the other rivers of Dukhun.

Cobitis Mooreh.

A *Cobitis*, with the same name of '*Mooreh*'; it differs from the preceding only in being of a smaller size, in having 12 rays in the dorsal, and 7 in the anal fin: the head is more obtusely pointed, and there are more dark blotches on it: the transverse dark marks on the body are not arranged along the lateral line and over the back, and alternating with each other: it differs, moreover, in having the tail wedge-shaped, and finally in having very minute scales. The fins have a very light orange tint.

Found in the Mota Mola river, at Poona.

Cobitis Maya.

A *Cobitis*, with the same name of '*Mooreh*': it differs only from the first in having a prickle under each eye, in having a blunter head, in having but 9 rays in the dorsal fin and 7 in the ventral fins, and in the tail being wedge-shaped, and it differs, moreover, in having excessively minute scales. The above fishes resemble each other so much in aspect, that it requires minute examination to satisfy the mind of their being of different species.

Found in the Mota Mola river, at Poona.

Fam. Esocidæ.

Genus Belone, Cuv.

Belone Graii.

Tab. LXIII. Fig. 4.

A *Belone*, with the fin of the tail rounded and emarginate; with both jaws elongated into a quadrangular beak; with very minute scales; and with a dorsal of 16 rays, and anal of 16 rays.

Form long, thin, and cylindrical: length 9½ inches: jaws subulate, almost linear, armed with teeth, those of the upper jaw alternating with those of the lower: jaws 2 inches long: fins all very small: pectoral fins of 10 rays; ventral fins of 6 rays; anal fin of 16 rays; dorsal, or fin above anal fin, and adjoining the tail, of 16 rays: tail 16 rays. Scales excessively delicate, small, thin and silvery: whole fish of a silvery colour; greenish upon the back: bones few: flesh very sweet and delicate: upper jaw a very little shorter than the lower; lower jaw slightly turned up at the tip: teeth large, distant, with many minute teeth between them.

Differs from *Esox Cancila* of Hamilton's 'Gangetic Fishes,' in having 1 ray more in the pectoral and tail-fins, and 1 ray less in the dorsal, and 2 in the anal fin, and in having minute scales. But a comparison of Dr. Hamilton's drawing with mine proves that they are very closely allied.

Found in the Mota Mola river, at Poona.

Although a freshwater fish, like its congener the *Belone vulgaris* of the European seas, it has its bones tinged greenish.

Fam. Siluridæ.

Genus Schilbe, Cuv.

Schilbe Pabo; Silurus Pabo, Buchanan Hamilton.

A *Schilbe*, with the tail divided into 2 unequal lobes, both pointing downwards, with 4 *cirri*, 2 shorter than the head, and with from 68 to 70 rays in the anal fin.

Very high at the shoulders, and gradually narrowing to the tail: fish compressed and thin: both lobes of the tail pointing downwards: head suddenly narrowing, and flatten-

ing from the high shoulders; snout a little turned up, without scales; mouth wide and rounded; jaws set with numerous minute sharp teeth: 2 *cirri* on the upper lip, extending to the end of the pectorals, and 2 short capillary feelers on the chin: dorsal fin on the shoulders, near to the head, of 4 rays only; very small, with the first ray ending in a thread; membrane between them quite transparent: pectoral fins of 14 to 16 rays, first ray bony, and serrated posteriorly, and ending in a whalebone-like substance; ventral fins of 8 rays, very small, roundish, on a perpendicular from the last dorsal ray; anal fin commencing at the ventral fin, and continuing to the tail, of from 68 to 71 rays: tail deeply forked, of from 17 to 18 rays, besides 2 or 3 minute outer rays: the jaws red: a good deal of reddishness about the head and breast, with a fine play of metallic colours: back dark silver-grey, passing into silver-white on the belly: flesh sweet, but not firm: not bony. From 12 to 15 inches long, by $2\frac{1}{2}$ to 3 inches high. In different parts of the country it is known by the name of '*Googul*,' '*Googlee*,' and '*Purwa*.'

Although the *Googul* has 1 ray in the dorsal, 2 in the pectoral, 2 in the ventral, and 2 in the anal fins, less than in the *Silurus Pabo* of Dr. Hamilton, from his drawing I am satisfied the two fish are identical. This fish is frequently confounded by fishermen in the different parts of the country with the *Googlee*, an *Hypophthalmus*.

Schilbe Boalis; Silurus Boalis, Buchanan Hamilton.

Tab. LXIV. Fig. 2.

A *Schilbe*, with the fin of the tail divided into 2 unequal lobes; with 4 *cirri*, of which 2 extend to the middle of the fish; all the fins unarmed; dorsal of 5 rays, pectoral of 15; ventral fins very small, of 9 rays; anal fin of 84 rays.

This fish has the head broad and flat, with the tail cleft, and composed of 18 rays, one segment in the line of the body, the other striking downwards: both lobes small: no scales: breast has a broad reticulated appearance: upper jaw with 2 *tentaculæ*, 6 inches in length; lower jaw with 2 *cirri* $\frac{3}{4}$ths of an inch long: the back has a bluish silvery appearance: belly white. Attains the length of 3 feet, and weight of 4 seers. Differs only from the *Silurus Boalis* of Dr. Hamilton in having 1 ray less in the ventral and 2 in the anal fins. Flesh esteemed by the natives, but not pleasant to the European palate.

Found in the Mota Mola river, at Kowree, near Poona. Its Mahratta names are '*Purram*' and '*Worshoorah*.'

This is probably No. 165 of Russell's fishes, called '*Wallagoo*.' In wanting the second dorsal fin this fish resembles the well-known *Silurus glanis* of Europe; but its vertically compressed body, independently of other differences, separate it from the genus *Silurus*; and yet, as it wants the serrated prickle in the dorsal, it is rather a *Silurus* than a *Schilbe*, particularly as it has only 4 instead of 8 *cirri*; but the number of *cirri* is certainly not a generic character.

Genus Hypophthalmus.

Spix, in his Brazilian fishes, has separated this genus from the multitudinous *Pimelodi*: its chief characteristics are the form of the head and shoulders, the length of the anal fin, and the extreme smallness of the second adipose dorsal, and the situation of the eyes; but it approximates so closely to Cuvier's genus *Schilbe*, that the necessity for its separation may be doubted.

Hypophthalmus Goongwaree.

Tab. LXIV. Fig. 3.

An *Hypophthalmus*, with 8 *cirri*, all longer than the head, but not extending to the middle of the fish; with 7 rays in the dorsal, and 52 in the anal fin.

Pectoral fins of 10 rays; first dorsal fin of 7 rays, and situated on the shoulders; the first ray in the pectoral and first dorsal fins is a posteriorly serrated spine; second dorsal fin very minute and fleshy, standing at an angle of 45°, small at its insertion, widening at its extremity. Ventral fins of 6 rays; very small: anal fin of 52 rays, and extending from the vent to the tail: tail deeply forked, of 18 rays; lobes large and sharp: vent before the middle: mouth furnished with small teeth, and with 8 *cirri* or feelers, 4 on the under jaw and 4 on the upper, all longer than the head, but none reaching to the middle of the fish: head depressed: body very much compressed, elongated, without scales, of a silvery hue, greenish along the back: eyes large, situated very low down, and near to the mouth; dull. Lateral line straight from the snout to the fork of the tail. Greatest size 28 inches long.

Found in the Mota Mola river, at Poona. Mahratta names '*Googlee*' and '*Goongwaree*.'

The *Googlee* has so much the aspect of the *Pimelodus Vacha* of Dr. Hamilton's drawing, that I would consider them identical, but that the pectoral fins have 6 rays less, and the anal 2 more; the posterior edge of the dorsal fin leans backward, and the posterior edges of the tail-fin are straight, and the fish is without dots of any kind. In other respects the two fishes correspond. Russell has not any of his *Siluridæ* resembling the *Googlee*.

This fish has the high shoulder and other characters of *Schilbe*, but having a second dorsal fin, it belongs to the genus *Hypophthalmus* of Spix; but it may be well doubted whether so slight a variation constitutes a generic difference. Cuvier has not made the distinction. *Vide* Spix (Pl. IX. and XVII.).

Hypophthalmus Taakree.

Tab. LXIV. Fig. 4.

An *Hypophthalmus*, with 8 *cirri*, 2 of which reach to the ventral fins; 2 very minute *cirri* near the nostrils, and 4 on the chin, nearly as long as the head; with the first dorsal and pectoral rays serrated on the posterior edge, and with 8 rays in the dorsal and 50 in the anal fin.

An elongated, compressed fish: head flat: eyes so much on the edge or side of the head as to be seen in half their diameter from below: dorsal fin of 8 rays, first ray a double bone serrated behind, situated near the shoulders; second dorsal fin a spatulate membrane; pectoral fins of 12 rays, first ray a strong bone, sharply toothed on the posterior edge; ventral fins of 6 rays, situated a little behind a perpendicular dropped from the last ray of the first dorsal fin; anal fin of 50 rays, not reaching to the tail: tail deeply forked, of 28 rays, including 6 small rays beyond the longest ray on the under lobe, and 5 on the outside of the longest ray on the upper lobe; point of upper lobe as low as the line of the back, the tail being bent downwards from the end of the second dorsal and anal fins: mouth furnished with 8 *tentaculæ*, of which the 2 smallest are situated close to the nostrils, 2 long ones ($3\frac{1}{2}$ inches long) are placed on each side of the upper lip, reaching to the end of the ventral fins, and 4 are on the under lip, arranged two and two, and they are nearly as long as the head: the snout nearly on a line with the level of the back, which is very slightly raised: belly more arched than the back. Length of the fish 9 inches; height 2 inches: back slate-colour, silvery on the sides and abdomen: neighbourhood of the eyes reddish. Bears some resemblance in form and colour to the *Goongwaree*, but grows to the size of a foot, the latter never exceeding 7 inches.

Found in the Beema river, near Pairgaon. The Mahratta name is '*Taakree*.'

Neither Hamilton nor Russell have any fish identical with the *Taakree*.

Genus Bagrus, Cuvier.

Bagrus Yarrelli.

Tab. LXV. Fig. 1.

A *Bagrus*, with the first rays of the pectoral and dorsal fins terminating in long fleshy tendrils, and serrated behind; with 8 *cirri*, two of which are as long as the head, thick, fleshy, and being lateral elongations of the upper lip; other *cirri* very short; head broad, covered with a granulated bony plate; the fish olive-brown, marked with black blotches like a Dalmatian dog; second dorsal fleshy, triangular.

A remarkably flat and broad-headed fish: eyes very small and distant from the nose: pectoral fins of 13 rays, the outer ray a bone serrated behind, elongating into a fleshy thread; first dorsal fin of 8 rays, the first ray a very short bone, the second a prickle, terminating in a fleshy thread, extending beyond the membrane; second dorsal fin without rays, fleshy, triangular; ventral fins of 6 rays, situated behind a perpendicular from the last dorsal ray; anal fin immediately below the second dorsal fin, of 12 rays: tail deeply forked, of 17 rays, besides 8 minute rays outside the largest rays, the longest rays terminating in long fleshy fibres: mouth furnished on each side with two long, fleshy, thickish feelers, which appear to be lateral elongations of the upper lip: nostrils close to the base of the labial feelers, and each having at the mouth side a small, erect, fleshy fibre: lower jaw with 4 short feelers. Colour of the fish deep olive-brown, towards the belly yellowish brown, and marked with spots like a Dalmatian dog.

Length 18 inches, but attains to a very great magnitude, and requires, when caught, to be secured with cords. The fish is remarkably ugly: keeps always to the ground: teeth isolated, sharp and strong, prickle-like; not on tongue or palate.

The *Kheerd* has many features in common with the *Pimelodus Cagarius* of Dr. Hamilton, but some discrepancies compel me to consider them distinct. The discrepancies are in the granulated plate of the head, in the first pectoral ray being serrated posteriorly, in having one ray less in the anal fin, and in the spotted colour of the fish, instead of being marked in black blotches.

Found in the Mota Mola, at Poona. In different parts of the country it is known by the names of '*Kheerd*,' '*Moolandah*' and '*Guwch*.'

Russell has not any fish resembling the *Bagrus*. The *Silurus ascita* of Bloch (Pl. XXXV. fig. 2.) approximates to the *Bagrus*.

I have named this fish after my friend Mr. Yarrell, who is so well known to ichthyologists, and to whom I am happy to make my acknowledgements for his judicious advice in the arrangement of my fishes.

Bagrus Lonah.

A *Bagrus*, with 8 small *cirri*; flat, granulated head; first dorsal fin of 7 rays, and pectoral of 10 rays, the first ray of which is furnished on the posterior edge with long sharp teeth; anal fin of 10 rays.

Head flat; snout round, furnished with 8 small *tentaculæ*, 2 on the upper lip, 2 on the nostrils, and 4 on the under lip: eyes small: pectoral fins of 10 rays, first ray a bone furnished on the posterior edge with long, sharp, distinct teeth; dorsal fin of 7 rays, first ray a bone; second dorsal fin a triangular fleshy excrescence; ventral fins of 6 rays, situated behind a perpendicular from the first dorsal fin; anal fin of 10 rays: tail forked, of 17 rays, besides 4 minute rays outside of each longest ray. Reddish brown, maculated with blackish. Native name '*Lonah*.'

Genus Platystoma.

Platystoma is a genus of Agassiz; in Spix and Agassiz 'Fishes of Brazil,' separated from the *Pimelodi*. Its principal features are the flat and elongated form of the mouth and head, and the peculiarly formed body; but it approximates very closely to the genus *Sorubim* of Spix.

Genus Platystoma, Agassiz.

Platystoma Seenghala.

Tab. LXV. Fig. 2.

A *Platystoma*, with the tail-fin crescent-shaped, lobes unequal; with 8 *cirri*, two of which only are longer than the head, reaching to two-thirds of the length of the fish; the first ray of the pectoral and ventral fins serrated behind.

Pectoral fins of 9 rays, first ray bony and serrated on the posterior edge; dorsal fin

of 8 rays, long, edge straight and sloping rapidly ; ventral fins situated very far back, of 6 rays, first ray bony and serrated on the posterior edge ; anal fin of 12 rays ; second dorsal fin a long, thin, fleshy excrescence, terminating in a blunt point : tail crescent-shaped, approaching to forked, of 24 rays, including minute rays at the base of the longest and first ray ; upper lobe the largest. Head remarkably flat and elongated ; snout quite rounded and furnished with 8 *cirri*, 4 from the upper and 4 from the lower jaw ; a bony plate on the head singularly marked with lines in regular forms ; eyes far removed from the mouth. Fish long, somewhat roundish : colour, along the upper surface of the body, purplish grey, softening down to silvery on the lower surface : a chocolate spot at the posterior junction of the second dorsal fin with the body. Length $8\frac{1}{2}$ inches ; height $1\frac{1}{4}$ inch ; but grows to a great size : has a silvery appearance. Flesh heating, and not brought to the tables of Europeans. Two of the feelers of the upper jaw two-thirds of the length of the fish. This fish is remarkable for having the first ray of the ventral fins, as well as that of the pectoral, serrated posteriorly, and the first dorsal spine *not* serrated. Found in the Mota Mola river, at Poona. The Mahratta name is '*Seenghala.*'

It is closely allied to the *Pimelodus Olor* of Hamilton. Russell has not any fish resembling it. Bloch's *Silurus fasciatus* (366) has the form of the *Seenghala*, and it is closely allied to species of the genus *Sorubim* of Spix (Tab. 13, 14 and 15.). The *Seenghala* would be a *Bagrus* of Cuvier.

Genus Phractocephalus.

Phractocephalus appears to be a very valid genus of Agassiz in the 'Brazilian Fishes.' Its chief features are the armature of the head, the elongated and pointed shoulder-blade, and the doubly-serrated, flat, bone-like first ray of the pectorals.

Genus Phractocephalus, Agassiz. Pirarara of Spix.

Phractocephalus Kuturnee.

Tab. LXV. Fig. 3.

A *Phractocephalus*, with 6 *cirri*, 2 of which only are longer than the head ; the first pectoral spine serrated on both edges ; the first dorsal spine on the posterior edge only ; these two spines terminating in a filament ; the shoulder-bone elongated into a point behind. Dorsal fin of 7 rays ; pectoral of 9 rays ; ventral fin small, of 7 rays ; second dorsal replaced by a small adipose fin.

Fish oblong, subrotund, bluish, with a golden reflection along the back, silvery towards the abdomen. Mouth furnished with 6 *cirri*, 2 on the upper lip (the longest reaching as far as two-thirds of the length of the pectoral prickles), 2 on the under jaw, and 2 capillary *cirri* issuing from the nostrils : eyes remarkable for being covered with a case in which there is only a minute oblong aperture for the sight, the greatest diameter being horizontal. Dorsal fin of 7 rays, first ray a strong bone, $1\frac{1}{4}$ inch long, serrated

slightly posteriorly and anteriorly, and terminating in a long flexible filament, each ray rapidly shortening from the first, and extending beyond the membrane; pectoral fins of 9 rays, the first ray a strong compressed bone, $1\frac{1}{4}$ inch long, serrated anteriorly, and dentated with long, thin, sharp teeth posteriorly, and terminating in a long flexible filament; second dorsal fin membranous, small, oblong; ventral fins small, of 7 rays, situated considerably behind a perpendicular from the first dorsal ray; anal fin of 12 rays, the first half the length of the third, and thence rapidly shortening: tail forked, of 17 rays, exclusive of 7 minute rays on each side of the longest ray: greatest length 6 inches. The fish, although bony, is esteemed. Found in the Beema river, at Pairgaon, in great numbers. This fish has so much the character of the *Pimelodus viridescens* drawn in Dr. Hamilton's 'Fishes of the Ganges,' that I should have considered them identical, did not the posterior and anterior serrated edges of the first pectoral and dorsal rays, and each of these rays terminating in a long filament, forbid it. It will be seen also, in a comparison of the drawings of the *Kuturnee* and *Pimelodus gagora* of Dr. Hamilton, that there is a close resemblance in their outlines; but the fishes are decidedly distinct. Russell has not any fish resembling it. The Mahratta name is '*Kuturnee*.'

This genus of Agassiz would appear to differ from the genus *Doras* of Lacepède, in wanting the armature along the lateral line. *Vide* also *Pirarara bicolor* of Spix (Tab. 6.).

PHRACTOCEPHALUS ITCHKEEA.

Tab. LXVII. Fig. 1.

A *Phractocephalus*, with 8 *cirri*, 2 of which, from the upper lip, extend to the end of the pectoral fins, the other 2 on the nostrils, very minute, with the 4 on the chin nearly as long as the head; with the first ray in the pectoral fins only serrated; with 8 rays in the dorsal, and 12 in the anal fins; with a sharp prolongation of the scapula.

A very pretty, minute, subcylindrical fish, 2 inches long: colour yellowish glossy silver, inclining to greenish on the back, and silvery on the belly; marked with dark bluish brown broad spots along the back, head, and at the base of the rays of the tail. Dorsal fin of 7 rays, outline concave, first ray a bone; second dorsal fin an elongated, erect, transparent membrane; pectoral fins of 10 rays, first ray a strong bone, serrated posteriorly; ventral fins of 6 rays, situated a good deal behind a perpendicular from the first dorsal ray; anal fin of 12 rays, outline concave: tail deeply forked, of more than 24 rays: head roundish; snout obtuse; eyes high, small, circular.

This fish has quite the outline of the *P. Tengana*, figured in Dr. Hamilton's 'Fishes of the Ganges,' but 2 of its tendrils extend to the end of the pectoral fins, and the number of the rays differ in the fins; I am constrained, therefore, to consider it a new species. Found in the Beema river, near Pairgaon.

This fish presents some deviations from those generic characters which it is so difficult to fix in the inosculating transitions to be met without, throughout the family of the *Siluridæ*. It has the remarkable spine-like shoulder-blade of the *Kuturnee* and *Gograh*;

and yet its first ray of the pectorals is only sawed posteriorly, and the first ray of the dorsals not serrated at all. The Mahratta name is '*Itchkeea.*'

Phractocephalus Gogra.

Tab. LXVI. Fig. 1.

A *Phractocephalus*, with 4 shortish *cirri*; the plates of the shoulder elongated into acute, angular, broad spines, with a dorsal fin of 8 rays, first ray a bone serrated behind; pectoral fins of 10 rays, the first ray a broad compressed bone serrated on both edges; anal fin with 13 or 14 rays.

Subcylindrical, depressed head, remarkably flat and broad, and rounded; broader than any part of the body. A bony plate on each side of the thorax projecting into an excessively strong, flat, acute, angular, pointed spine $\frac{2}{5}$ths of the length of the head, but its edges are enveloped in the skin of the body. Mouth furnished with 4 *cirri*, one on each side of the upper lip and two on the under jaw, distant from the lip and distant from each other. Pectoral fins of 10 or 11 rays, first ray a broad compressed bone, serrated on both edges; dorsal fin of 8 rays, first ray serrated very minutely posteriorly; second dorsal fin an erect fleshy process, arched and projecting into a kind of lobe; ventral fins of 8 rays, situated a little behind a perpendicular let fall from the last dorsal ray; anal fin of 13 or 14 rays, including 4 or 5 minute rays in front of the longest ray: tail forked, of 17 rays, besides minute rays on the outside of the longest rays: flesh heating. Size of the fish described, 6 inches long; $1\frac{3}{10}$th inch high; width across the head $1\frac{3}{10}$th inch. Found in the Beema river, at Seedataik, and Mota Mola river, at Poona. It is a lurking fish, keeps near the ground and in dark places, and has the habits of a *Cottus*.

In different parts of the country it is known by the Mahratta names of '*Gograh*,' '*Kheerurh*,' and '*Puttur Chattah.*'

Genus Pimelodus, Lacepède.

Pimelodus Seengtee.

Tab. LXVI. Fig. 2.

A *Pimelodus*, with the caudal fin divided into 2 unequal sharpish lobes, and having 8 *cirri*, 2 of which reach to the tail-fin, and 4 to the end of the head, and 2 are shorter than the head; the dorsal fin high and without spine, of 9 rays, 12 rays in the anal fin; the second dorsal adipose, and extending from the termination of the first dorsal to near the tail.

Mouth furnished with 8 *cirri*, 2 six inches long on each side of the upper lip, and turning backwards, 2 short capillary at the nostrils, and 4 on the under lip, arranged two and two, as long as the head. First dorsal fin of 8 rays—rays strong and large, first ray bony; second dorsal fin an erect membrane, commencing at the termination of the first dorsal fin, and continuing $2\frac{1}{2}$ inches, in an arched form, low before and high behind, to the tail; pectoral fins of 10 rays, first ray a strong bone, strongly serrated posteriorly; ventral fins of 6 rays, situated on a perpendicular let fall from the last

dorsal ray; anal fin of 10 rays, besides 2 minute rays before the longest ray: tail deeply forked, of 17 rays, besides several minute rays outside the longest rays; upper lobe of the tail the longest: length of the fish 6 inches. Found in the Beema river, at Pairgaon. Differs from the *Pimelodus Cavasius* of Dr. Hamilton in having one ray less in the pectoral fins, and one in the anal fin; in the absence of spots on the fins, and in other particulars. In the illustrations of Cuvier's 'Genera of Fish' by Guerin (Pl. LIII. fig. 1), a fish called *Porcus Bayad*, Geoff., has a close resemblance to the *Seengtee*; and in the notes to the 'Règne Animal' the *Porcus* is considered a *Bagrus*.

The Mahratta names for this fish are '*Seengtee*' and '*Soorah.*'

Genus Ageneiosus, Lacepède.

Ageneiosus Childreni.

Tab. LXVI. Fig. 3.

An *Ageneiosus*, without *cirri*; with the first ray of the dorsal and pectoral fins serrated on the *anterior* edge only; with 8 rays in the dorsal and 42 in the anal fin; with two sharp lobes to the tail, the upper being somewhat the smallest.

The form of the fish is somewhat lance-head shaped.

Pectoral fins of 12 rays, longest and outer ray serrated on the anterior edge; ventral fins of 6 rays, in the middle of the abdomen; first dorsal fin of 8 rays, the first ray bony and serrated on the anterior edge, situated a little behind the shoulders, its edge nearly perpendicular; second dorsal fin near the tail, without rays, fleshy, minute, oblong, standing at an angle of 45° to the back; anal fin of 42 rays, extending from near the ventrals to the tail; edge somewhat concave, first ray the longest: tail forked, of 30 rays: fish of a silvery appearance: deep or high, and somewhat compressed: shoulders high: snout flat; teeth sharp and distinct in both jaws; eyes far forward, at the sides of the head, longest axis of the pupil vertical: length of the fish 18 inches; depth 4½ inches; grows to a much larger size: flesh sweet and juicy, but not firm. A comparison of my drawing with the description of *Ageneiosus mino* of Dr. Hamilton's 'Fishes of the Ganges,' will show how many features there are in common between it and the *Parree*; but its height and compressed body, and the extent of the anal fin, at once fix the latter as a distinct species. Found in the Mota Mola river, at Poona. *Pimelodus Silorida* of Buchanan Hamilton (Tab. VII. fig. 50) is also an *Ageneiosus*.

Ageneiosus Childreni is known in the Deccan by the Mahratta names of '*Parree*' and '*Sillun.*' I have dedicated it to my friend Mr. Children, of the British Museum.

Family Clupeidæ.

Genus Mystus; Notopterus, Lacepède.

The genus *Mystus* of Buchanan Hamilton, as described p. 233, 'Fishes of the Ganges,' but not the *Mystus* of Cuvier: *Mystus* radiis branchiosteges utrinque plus tribus; ventre carinato; prima ani longa cum caudali unita; dorso minopterygio.

Mystus Badgee.

Tab. LXVII. Fig. 2.

A *Mystus*, with not less than 105 rays in the anal fin, 7 or 8 in the dorsal; with the last gill-cover plate minutely crenated on its posterior edge, and with the anal fin terminating the body in a point; ventral fins none, or so minute as to escape observation.

Form of the fish broad lance-head shaped.

Posterior edge of the last gill-plate crenate; the lower ridge of the cheek-bone set with numerous minute square teeth. Dorsal fin of 7 or 8 small rays, branched, excepting the first, seated a little behind the centre of the back; pectoral fins of from 13 to 16 branched rays, small; anal fin extending from near the pectoral fins to the extremity of the fish, of 105 rays or more; ventral fins joined and surrounding the vent, of from 2 to 4 rays, but the fins are so minute as usually to escape observation: tail only in the continuation of the anal fin, and terminating in a point on the plane of the lateral line. Fish very much compressed, lance-head shaped, but deepest at the shoulders; length 11 inches; height 3 inches: vent before the extremity of the pectoral fins. A dark, irregular, lengthened, very smooth, shining cavity over each eye, besides two minute, oval, similar hollows further up the head. Scales very minute, steel-gray along the back, passing into white silvery at the belly: lateral line arched near the shoulders, thence straight to the tail: belly so compressed as to be comparatively knife-edged; the belly is grooved and minutely serrated on each edge from the throat to the vent: the back is rounded. The upper and lower jaws set with numerous minute teeth, scattered along the edge of the jaws; the tongue is set with many incurved teeth. Eyes circular, high up, near the snout; irides yellowish: fish very bony: flesh firm; not esteemed. Found in the Mota Mola river, at Poona, and in the Beema river, at Seedataik. In different parts of the Dukhun this fish is called by the Mahratta names of '*Challut*,' '*Badgee*,' and '*Putrah*.'

This fish should constitute a new genus in *Pisces* of the order *Apodes*; for although Dr. Hamilton in his specific characters gives ventral fins with a definite number of rays, six or seven individuals were examined by me without my discovering them, and the fish from which the drawing was made was absolutely destitute of them. An eighth specimen, which I have preserved in spirits, has a minute fin surrounding the vent, but I cannot testify positively to the number of its rays, and I would rather look upon it as a defensive process for that organ. Of the three species of *Mystus* described by Dr. Hamilton, the *Challut* has a very considerable affinity to *M. Kapirat*, which Bonnaterre considered as a *Gymnotus*, and Lacepède a *Notopterus*; it nevertheless has specific differences. This is no doubt of the genus *Notopterus* of Lacepède; but as Buchanan Hamilton established the genus, I necessarily give his characters precedence.

Order APODES.

Family MURÆNIDÆ.

Genus ANGUILLA, Cuvier.

ANGUILLA ELPHINSTONEI.

Tab. LXVII. Fig. 3.

An *Anguilla*, with the lower jaw the longest; with the back, tail, and anal fins united, and with a broadish, flat head; body dark green, blotched with black; with 2 short tubular processes, one on each side of the upper jaw. Attains the length of 3 feet, and diameter of 3 inches.

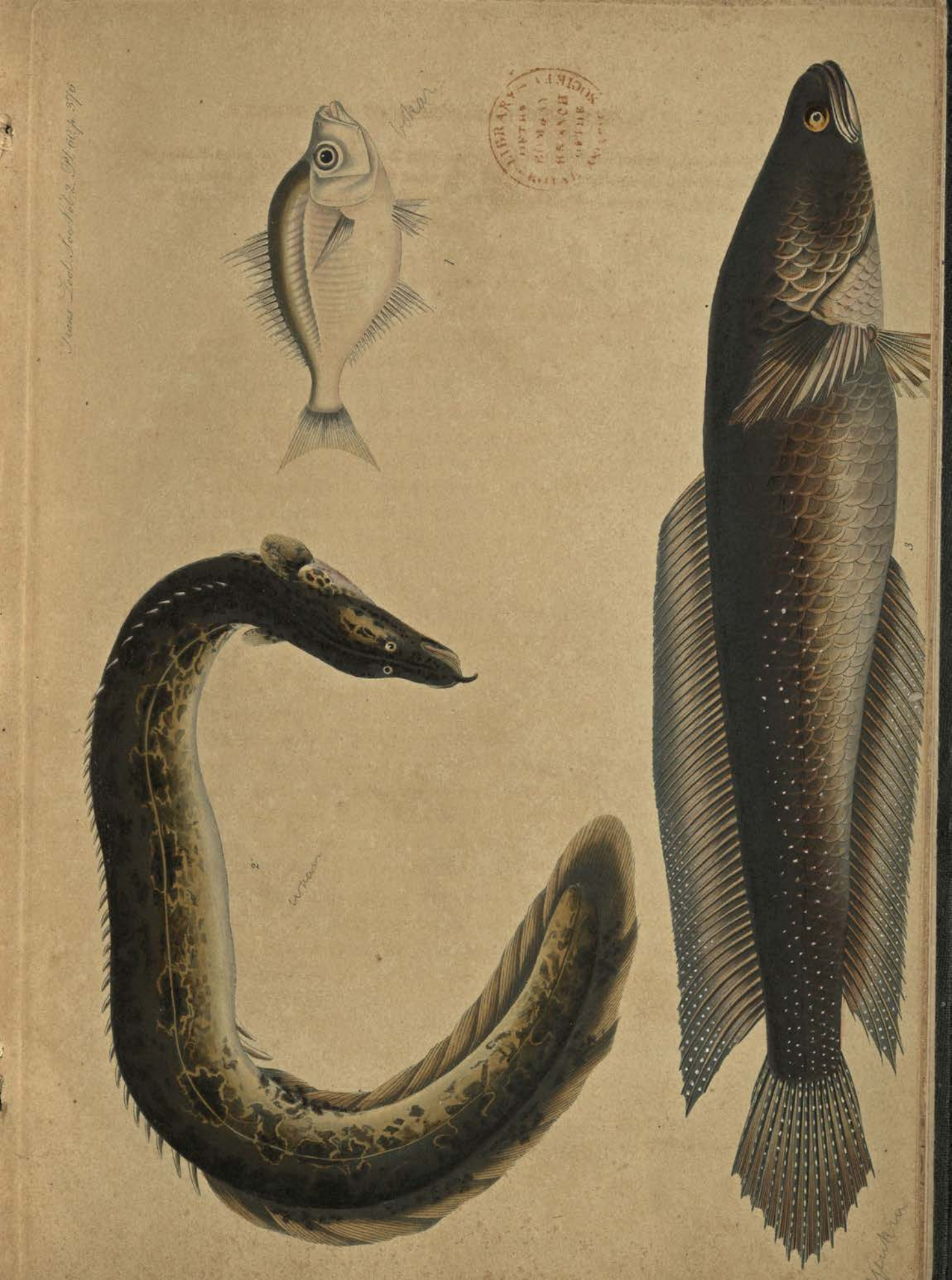
Head wider than body; eyes very small and circular; irides yellowish: fish thick for the Eel family: the pectoral fins are small and with the longest rays in the centre; the dorsal fin commences behind the shoulders and continues to the tail; the rays in it are not very conspicuous from the thickness of the membrane; the anal fin commences from the centre of the fish, and continues to the tail, the dorsal and anal fins uniting in the tail. The skin of this fish, in a mature state, is remarkably beautiful, being of a dark green, maculated black; the spots being of irregular forms and running into each other occasionally. The breathing is by two small lunate spiracles close to the pectoral fins; the nostrils have two fleshy processes; the jaws and palate are set with minute teeth. A fish brought to me at Poona, measured three feet long by three inches in diameter—the fish being nearly cylindrical: flesh firm and sweet. The skin has a curious and beautiful appearance of minute plaited or basket-work. This fish has all the generic characters of the *Anguilla* of Shaw, and is an undoubted *Eel*; but with the exception of the absence of mention of spiracles by Dr. Hamilton, has a certain correspondence with his *Muræna maculata* of Lacepède, which is, however, a sea-fish, with pointed head. It has the form of *Chawloo Parnoo*, or *Malgumarus* (*Muræna Anguilla*, Linn.) of Russell's 'Fishes of the Coromandel Coast,' but differs entirely in colour and in having *cirri*. I have dedicated this fine fish to the Honourable Mountstewart Elphinstone. Its Mahratta name is '*Aheer*.'

In concluding my characters of the fishes of Dukhun (Deccan), I may be allowed to state that I have found the number of *cirri*, whether in the *Siluridæ* or *Cyprinidæ*, insufficient as a *generic* character; different species of the same genus varying in the number of their *cirri*.

Note.—Although the preceding details respecting the Fishes of the Dukhun were comprised in a report presented to the Court of Directors of the East India Company in June 1831, they were only communicated to the Zoological Society on the 27th of November, 1838, almost contemporaneously with a communication made to the Asiatic Society of Bengal on the Indian *Cyprinidæ*, by John McClelland, Esq., Assistant-Surgeon in the Bengal

Army. The Asiatic Society of Bengal having taken precedence of the Zoological Society in the publication of Mr. McClelland's voluminous, extensively illustrated, and able paper, the names of any of my new species of *Cyprinidæ*, therefore, which are common to Mr. McClelland and myself, must give way to those fixed by Mr. McClelland.

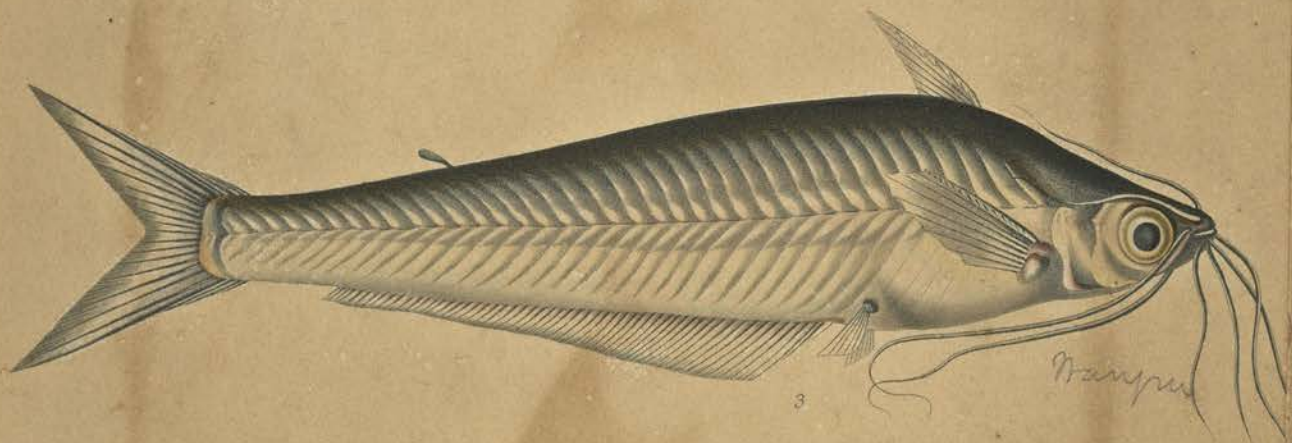
London, 27th February, 1841.



ROYAL ASIATIC SOCIETY OF GREAT BRITAIN & IRELAND

2

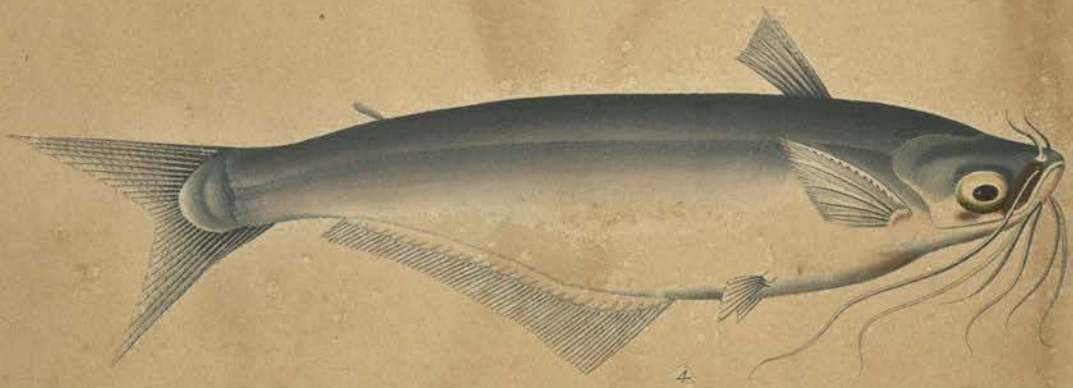
Shiura.



3

Wanpu

7



4

1. Cobitis Ruppelli. 2. Schilbe Boalis. 3. Hypophthalmus Georgwarae. 4. Hypophthalmus Faukree.

1. Phractocephalus Gigas 2. Pimelodus Sangu 3. Hemiodus [illegible]

1. Phractocephalus Hoeveii. 2. Mystus Badgee. 3. Anguilla Elphinstonei.

00034322

Digitized with financial assistance from the
Government of Maharashtra
on 26 June, 2018